

Abstract

The present invention is in the field of plant biochemistry and genetics. More specifically the invention relates to nucleic acid sequences from plant cells, in particular, genomic DNA sequences from *Arabidopsis thaliana* plants. The invention encompasses nucleic acid molecules present in non-coding regions as well as nucleic acid molecules that encode proteins and fragments of proteins. In addition, the invention also encompasses proteins and fragments of proteins so encoded and antibodies capable of binding these proteins or fragments. The invention also relates to methods of using the nucleic acid molecules, proteins and fragments of proteins, and antibodies, for example for genome mapping, gene identification and analysis, plant breeding, preparation of constructs for use in plant gene expression, and transgenic plants.